I CLAIM AS MY INVENTION:

1. A method for managing a network providing data services to a subscriber, wherein the network comprises an OLT and an ONU connected to the OLT via a passive optical network, wherein the ONU is connected to the subscriber through an xDSL connection, the method comprising:

providing a plurality of managed entities for managing the ONU, wherein the plurality of managed entities further comprise ADSL managed entities for managing an ADSL connection between the ONU and the subscriber, and VDSL managed entities for managing a VDSL connection between the ONU and the subscriber;

managing the network through one or more of the plurality of managed entities; and

communicating data and network management information between the OLT and the ONU in response to the managed entities.

2. The method of claim 1 wherein the step of communicating the data and the network management information further comprises communicating the data and the network management information over the passive optical network.

3. The method of claim 1 wherein each one of the plurality of managed entities further comprises one or more network attributes, each network attribute associated with a network feature.

4. The method of 3 wherein network attributes associated with related network features are included within a single managed entity.

5. The method of claim 4 wherein the network attributes associated with related network features included within a single ADSL managed entity comprise one or more of channel performance monitoring history data, ATU-C and ATU-R performance monitoring history data, channel configuration profile, channel downstream status data, channel upstream status data, a downstream PSD mask profile, a downstream RFI bands profile, a subcarrier masking downstream profile, a subcarrier masking upstream profile, threshold crossing adaptor performance monitoring history data.

6. The method of claim 4 wherein the network attributes associated with related network features included within a single VDSL managed entity comprise one or more of physical path termination point VDSL UNI, band plan configuration profile, channel configuration profile, channel data, line configuration profile, VTU-O and VTU-R channel performance monitoring history data, VTU-O and VTU-R physical data, VTU-O and VTU-R physical interface monitoring history data.

7. The method of claim 3 wherein network attributes define operational parameters of one or more of the OLT, the ONU, the passive optical network, the ADSL connection and the VDSL connection, and wherein network attributes associated with related network features are included within a single managed entity.

8. The method of claim 3 wherein network attributes associated with related network features are included within a plurality of associated managed entities.

9. The method of claim 8 wherein the plurality of associated managed entities comprise managed entities related to one or more of an ADSL line configuration profile, ADSL line inventory and status data and physical path termination point ADSL UNI.

10. The method of claim 1 wherein each managed entity is represented by a fixed number of data bytes.

11. The method of claim 10 wherein the fixed number of data bytes comprises 53 data bytes.

12. The method of claim 1 wherein each one of the plurality of managed entities is represented by a fixed number of data bits and comprises one or more network attributes selected from a plurality of network attributes, and wherein each network attribute is represented by data bits, and wherein the network attributes selected for inclusion within each one of the plurality of managed entities comprise network attributes associated with related network features and network attributes having a data bit sum less than or equal to the fixed number of data bits.

13. The method of claim 1 wherein the data services comprise telephone service, Internet data service, multimedia services and video services.

14. The method of claim 1 wherein the passive optical network comprises a broadband passive optical network or a gigabit passive optical network.

15. The method of claim 1 wherein the network comprises a fiber to the home network, a fiber to the business network, a fiber to the building network, a fiber to the curb network, a fiber to the premises network or a fiber to the cabinet network.

16. The method of claim 1 further comprising receiving network management requests from a network management system, wherein the step of managing the network is responsive to the network management requests.

17. The method of claim 1 further comprising creating a plurality of managed entities when an xDSL connection is activated.

18. The method of claim 1 wherein each managed entity comprises one or more of a relationships element, an attributes element, an actions element and a notifications element.

19. The method of claim 18 wherein the notifications element further comprises alarms, test results and attribute value changes.

20. The method of claim 1 wherein each one of the plurality of managed entities comprises network attributes, and wherein certain related network attributes are included in one managed entity and certain other related network attributes are included in at least two managed entities.

21. The method of claim 1 wherein the plurality of managed entities further comprise required managed entities and optional managed entities.

22. The method of claim 1 further comprising a plurality of subscribers and a plurality of ONU's, wherein each one of the plurality of ONU's is connected to subscribers through the xDSL connection, and wherein the step of communicating further comprises communicating data and network management information between the OLT and the plurality of ONU's in response to the managed entities.

23. A method for managing a network providing communications services to a plurality of subscribers, wherein the network comprises a passive optical network further comprising an OLT and a plurality of ONU's connected to the OLT via the passive optical network, wherein each ONU further defines a plurality of slots and each slot further defines a plurality of ports, and wherein each port comprises a plurality of channels, and wherein a subscriber is connected to the passive optical network through one of the plurality of ONU's by an xDSL connection to one of the plurality of ports, the method comprising:

providing a plurality of managed entities for managing the xDSL connection, wherein one or more of the managed entities relate to a channel, and wherein the channel is identified in the managed entity according to a first plurality of bits identifying the port, a second plurality of bits identifying the slot and a third plurality of bits identifying the channel;

managing the network through one or more of the plurality of managed entities; and

communicating data and network management information in response to the managed entities.

24. The method of claim 23 wherein the first plurality of bits comprises a byte and a combination of the second and the third plurality of bits comprises a byte.

25. The method of claim 24 wherein the second plurality of bits comprises six bits and the third plurality of bits comprises two bits.

26. A method for managing a network providing data services to a plurality of subscribers, wherein the network comprises an OLT and a plurality of ONU's connected to the OLT via a passive optical network, wherein each ONU is further connected to a plurality of subscribers through an xDSL connection, the method comprising:

providing managed entities for managing the ONU, wherein the managed entities further comprise ADSL managed entities for managing an ADSL connection between the ONU and the subscriber, and VDSL managed entities for managing a VDSL connection between the ONU and the subscriber;

managing the network in response to one or more of the managed entities; and

communicating data and network management information between the OLT and the plurality of ONU's in response to the managed entities.

27. An OLT for managing a passive optical network comprising a plurality of ONU's each ONU providing a plurality of xDSL links and each link comprising a plurality of channels, the OLT comprising:

a controller for managing the plurality of channels of the plurality of xDSL links by issuing managed entities to the ONU, wherein each managed entity comprises a link identifier and a channel identifier; and

a transceiver for sending data to and receiving data from the ONU's.

28. The OLT of claim 27 wherein each ONU comprises a plurality of slots and each slot further comprises a plurality of ports and each port comprises a plurality of channels and wherein a subscriber is connected to the ONU at one of the plurality of ports.

29. The OLT of claim 28 wherein certain managed entities comprise a slot identifier, a port identifier and a channel identifier.

30. The OLT of claim 29 wherein the slot identifier comprises a first plurality of bits, the port identifier comprises a second plurality of bits and the channel identifier comprises a third plurality of bits.

31. The OLT of claim 30 wherein the second plurality of bits comprises a byte and a combination of the first and the third plurality of bits comprises a byte.

32. The OLT of claim 31 wherein the first plurality of bits comprises six bits and the third plurality of bits comprises two bits.

33. An ONU connectable to a plurality of subscribers via an xDSL link and connectable to an OLT via a passive optical network, the ONU comprising:

a network processor responsive to managed entities issued by the OLT for managing the xDSL links; and

a transceiver for sending data received from a subscriber over the xDSL link to the OLT, and for receiving data from the OLT and providing received data to a subscriber over the xDSL link.

34. The ONU of claim 33 wherein the passive optical network comprises a broadband passive optical network or a gigabit passive optical network.

35. The ONU of claim 33 further comprising a plurality of slots and each slot further comprising a plurality of ports and each port further comprising a plurality of channels, and wherein the xDSL link is connected to one of the plurality of ports.

36. The ONU of claim 35 wherein certain managed entities comprise a slot identifier, a port identifier and a channel identifier.

37. The ONU of claim 36 wherein the slot identifier comprises a first plurality of bits, the port identifier comprises a second plurality of bits and the channel identifier comprises a third plurality of bits.

38. The ONU of claim 37 wherein the second plurality of bits comprises a byte and a combination of the first and the third plurality of bits comprises a byte.

39. The ONU of claim 38 wherein the first plurality of bits comprises six bits and the third plurality of bits comprises two bits.

40. A management information base comprising a plurality of managed entities for managing a network, wherein the network comprises a passive optical network and xDSL links connected to a plurality of subscribers, the management information base comprising:

a first plurality of managed entities for configuring the xDSL links;

a second plurality of managed entities for managing operation of the xDSL links; and

a third plurality of managed entities for requesting reporting of xDSL link performance.

41. A management information base for managing a network, wherein the network comprises a passive optical network and xDSL links connected to a plurality of subscribers, the management information base comprising:

a first plurality of required managed entities; and

a second plurality of optional managed entities.

42. The management information base of claim 41 wherein the first plurality of required managed entities comprises managed entities associated with an ADSL channel configuration profile, ADSL channel downstream and upstream status data, an ADSL channel downstream PSD mask profile, an ADSL downstream RFI bands profile, an ADSL line configuration profile, ADSL line inventory and status data, an ADSL subcarrier masking downstream and upstream profile and a physical path termination point ADSL user network interface.

43. The management information base of claim 41 wherein the second plurality of optional managed entities comprises managed entities associated with ADSL ATU-C and ATU-R channel performance monitoring history data, ATU-C and ATU-R performance monitoring history data and ADSL threshold crossing adaptor performance monitoring history data.

44. The management information base of claim 41 wherein the first plurality of required managed entities comprises managed entities associated with a VDSL physical path termination point user network interface, a VDSL band plan configuration profile, a VDSL channel configuration profile, VDSL channel data, a VDSL line configuration profile and VDSL VTU-O and VTU-R physical data.

45. The management information base of claim 41 wherein the second plurality of optional managed entities comprises managed entities associated with VDSL VTU-O and VTU-R channel performance monitoring history data and VDSL VTU-O and VTU-R physical interface monitoring history data.

46. A communications network for providing communications services to a plurality of subscribers;

a first optical terminal unit;

second optical terminal units each connected to a plurality of subscribers through a like plurality of xDSL lines;

a passive optical communications path disposed between the first optical terminal unit and the second optical terminal unit for carrying information therebetween;

wherein the first optical terminal unit operates as a network manager for managing the second optical terminal units and the xDSL lines using a plurality managed entities, and wherein a length of each one of the plurality of managed entities is limited to a predetermined number of bits.

47. The communications network of claim 46 wherein the xDSL line comprises an ADSL line or a VDSL line.

48. The communications network of claim 46 wherein each one of the plurality of managed entities comprises one or more attributes for managing the plurality of xDSL lines, and wherein a managed entity comprises related attributes, and wherein the predetermined number of bits limits the number of attributes that can be included in one managed entity, and wherein certain related attributes are distributed between at least a first and a second managed entity.

49. The communications network of claim 48 wherein the first and the second managed entity comprises one of, an ADSL line configuration profile part 1 and part 2 managed entity, an ADSL line inventory and status data part 1 and part 2 managed entity and a physical path termination point ADSL user network interface part 1 and part 2 managed entity.

50. The communications network of claim 46 wherein the first optical terminal unit is connected to one or more external networks for providing communications services between the plurality of subscribers and the one or more external networks.

51. The communications network of claim 50 wherein the one or more external networks comprises one or more of the Internet, a network providing video services and a telephone services network.

52. An article of manufacture comprising:

a computer readable program product comprising computer-readable media having computer readable code stored therein further comprising a management information base for managing a network providing data services to a plurality of xDSL subscribers, the article of manufacture comprising:

a computer-readable program code module comprising a first plurality of required managed entities; and

a computer-readable program code module comprising a second plurality of optional managed entities.

53. A memory for storing data for access by a network manager program executed on a first optical network terminal unit connected to a passive optical network, the data for controlling xDSL links connected to the passive optical network, the memory comprising:

a data structure stored in the memory and including information used by the network manager program, the data structure comprising:

a plurality of managed entities each having a same predetermined length.

54. The memory of claim 53 wherein the network further comprises a plurality of second optical network terminal units connected between the passive optical network and the xDSL links, and wherein the first optical network terminal unit provides the managed entities to the second optical network terminal units for controlling the xDSL links connected thereto.

55. The memory of claim 54 wherein each of the plurality of second optical network terminal units comprises a plurality of slots and each slot further comprises a plurality of ports and each port comprises a plurality of channels, and wherein an xDSL link is connected to the second optical terminal unit at one of the plurality of ports.

56. The memory of claim 55 wherein certain managed entities comprise a slot identifier, a port identifier and a channel identifier.

57. The memory of claim 56 wherein the slot identifier comprises a first plurality of bits, the port identifier comprises a second plurality of bits and the channel identifier comprises a third plurality of bits.

58. The memory of claim 57 wherein the second plurality of bits comprises a byte and a combination of the first and the third plurality of bits comprises a byte.

59. The memory of claim 58 wherein the first plurality of bits comprises six bits and the third plurality of bits comprises two bits.

60. The memory of claim 53 wherein the same predetermined length comprises 53 bytes.

61. A memory for storing data for access by a network manager program executed on a network manager device for managing a passive optical network, wherein the passive optical network comprises a plurality of optical network units each connectable to a plurality of subscribers through an xDSL connection, the memory comprising:

a data structure stored in the memory, the data structure comprising information resident in a database for use by the network manager program and comprising;

a plurality of managed entity data objects, each further comprising a plurality of attribute data objects, each of the plurality of attribute data objects associated with a network operating parameter.

62. The memory of claim 61 wherein the plurality of managed entity data objects further comprises a line configuration profile managed entity data object for an ADSL connection.

63. The memory of claim 62 wherein the line configuration profile managed entity data object comprises one or more of the following plurality of attribute data objects, managed entity ID, ATU transmission system enabling, power management state forced, power management state enabling, downstream target noise margin, upstream target noise margin, downstream maximum noise margin, upstream maximum noise margin, downstream minimum noise margin, upstream minimum noise margin, downstream rate adaptation mode, upstream rate adaptation mode, downstream up-shift noise margin, upstream up-shift noise margin, upstream PSD mask selection, minimum overhead rate upstream, minimum overhead rate downstream, downstream minimum time interval for up-shift rate adaptation, upstream minimum time interval for up-shift rate adaptation, downstream down-shift noise margin, upstream down-shift noise margin, downstream minimum time interval for downshift rate adaptation, upstream minimum time interval for downshift rate adaptation, ATU impedance state forced, L0-time, L2-time, downstream maximum nominal power spectral density, upstream maximum nominal power spectral density, downstream maximum nominal aggregate transmit power, upstream maximum nominal aggregate transmit power, upstream maximum aggregate receive power, loop diagnostics mode forced, automode cold start forced, L2-ATPR, L2-ATPRT.

64. The memory of claim 61 wherein the plurality of managed entity data objects further comprises a line configuration profile managed entity data object for a VDSL connection.

65. The memory of claim 64 wherein the line configuration profile managed entity data object comprises one or more of the following plurality of attribute data objects, managed entity ID, down rate mode, up rate mode, down max power, up max power, down max SNR margin, down min SNR margin, down target SNR margin, up max SNR margin, up min SNR margin, up target SNR margin, down PBO control, up PBO control, down PBO level, up PBO level, line type.